FINAL
Colorado State Assessed Capitalization Rates
Tax Year 2006

INTRODUCTION

The narrative describes the methods, sources and calculations for the 2006 Capitalization Rates used by the Division of Property Taxation (DPT). The DPT develops a capitalization rate (cap rate) for each utility industry group or sub-group using the band of investment method. The cap rate for each source of capital (common equity, preferred stock and debt) is weighted according to its proportion in the market capital structure and combined to derive a weighted average cost of capital (WACC) for each industry. An example is shown below:

Industry WACC Band of Investment Formula
Equity Rate x Percent Equity + Deb Rate x Percent Debt + Preferred Rate x Percent Preferred = Industry Cap Rate

Example	Capital Structure			
	Rate		Percent	
Equity	15%	X	50%	7.5%
Debt	8%	X	40%	3.2%
Preferred	12%	X	10%	1.2%
			Industry Cap Rate	11.9%

CHANGES FOR 2006

Preferred Stock

As in 2005, if the majority of companies in a particular industry did not have preferred stock, we placed zero weight on preferred stock in its capital structure. The industry's average of preferred stock was included in the common equity rating for the industries capital structure. The industries that this applied to for 2006 are as follows:

Airlines – national, regional, and cargo
Pipelines – distribution, transmission, and fluid
Railroad – majors, short-line
Telecom – LECs, long-distance, mobile, and resellers

Preferred stock remains only for the electric industry because it is typical for the electric industry. Inclusion of preferred stock will be reviewed annually. If this becomes typical for companies in an industry, it will be given the appropriate weighting.

IPP (formerly designated as Co-Generation Facilities and Wind Farms)

Based on our analysis of documentation supplied at the Division's April 11, 2006, capitalization rate meeting, we have assigned a capitalization rate of 11.22% for Independent Power Producers (IPPs) for 2006. This number reflects additional risk and expected returns for IPPs over typical regulated electric companies in Colorado. The additional risk is mitigated, in part, by the use of long term energy sales contracts and gas "tolling" agreements in place for most Colorado gas-fired IPPs.

AIRLINES (Major and Regional)

Financial rating data is sparse for most of the major and regional airlines in our study. As such, we have made the following determinations:

- For Airlines classified as Major carriers, we have imputed a 30% debt – 70% equity capital structure and imputed a debt rate for the WACC model based on the average of CCC/Caa grade debt rates from analysis of corporate bond ratings from Standard and Poor's and Moody's.

- For Airlines classified as Regional carriers, we have imputed a debt rate for the WACC model based on the average of B grade debt rates from analysis of corporate bond ratings from Standard and Poor's and Moody's.

Convergence and CLECs and ILECs

Based on presentations at both the Wyoming and Colorado cap rate meetings and review of the issues surrounding "convergence" in the telecommunications industry, we have made the following changes for 2006:

- Both CLECs and ILECs will be merged into a Local Exchange Company (LEC) industry classification and receive a single capitalization rate.

- For LECs, we have imputed a 30% debt – 70% equity capital structure for use in the WACC calculation.

We will continue to examine this issue after the 2006 valuation season for additional consolidations or changes for 2007.

INDUSTRY GROUPINGS

We used the *Value Line Investment Survey* (Value Line) grouping for all industries published between December 2005 and March 2006. Some companies in the Value Line industry group were not used because their activities are not representative of the Colorado utility companies. Four industry groups are further subdivided to reflect different markets.

- The airline industry is divided into national airlines, regional airlines, and cargo carriers.

- Electric companies are divided into electric utilities and independent power producer (IPP) facilities.

- The railroad industry is divided into major carriers and short-line carriers.

- The telephone industry is divided into:

    - Local Exchange Companies (LEC)
    - Long-distance telephone companies,
    - Mobile telephone companies.
    - Resellers

The merging of CLEC telephone companies and ILEC telephone companies to the LEC classification is based on the fact that many of the telephone companies in each grouping are engaged in similar telecommunications business ventures. The long-distance group includes the companies that are predominantly long-distance providers and providers of broadband and fiber optic cable. Resellers are companies with relatively little capital investment and are using service contracts with broadband and fiber optic carriers to provide two-way communication to their customers.

INDUSTRY CAPITAL STRUCTURE

An average capital structure is developed using the market value of equity and the book values of long-term debt and preferred stock. Using Value Line, the market value of equity is calculated by multiplying the number of shares of common stock outstanding by the listed recent stock price. The average percentage of equity, debt, and preferred stock for all companies in the group is used to calculate the WACC.

Non-typical (outlier) capital structures were closely examined to ascertain whether the impact of outliers could skew the final weighted capitalization rate. Capitalization rates for all industry groups were established using the average debt and equity components from the study. Preferred stock was specifically excluded in the calculations of all industry types except the electric industry. The effects of any preferred stock on capital structure were added to the equity capital structure percentage. Refer to the section on the next page for additional information about our consideration of preferred stock.

COST OF DEBT

The cost of debt is obtained from *Mergent Bond Record* (Moody's) and *Standard and Poor's Bond Guide* (Standard and Poor's). The appropriate rates are incorporated for each company. If both Moody's and Standard and Poor's ratings are available, the two are averaged for the debt rate. For those companies where no rate is available, an average of the available rates within the industry for both Moody's and Standard and Poor's is utilized. If only one rate is available, that rate, along with the industry's average from the other bond source is averaged and used for the company. For companies with a C or D rating, the corresponding rating is imputed using all corporate bond debt instruments with that rating. The average debt rate for all companies in the grouping is incorporated into our WACC analysis for each industry.

Neither Standard and Poor's nor Mergent provides year-end 2005 Bond yields for bonds and notes rated BB to C level. Using both Standard and Poor's End of Year 2005 Bond Guide and the Mergent's January 2006 Bond Guide, we selected a significant number of a BB/Ba, B, CCC/Caa, CC/Ca, and C rated bonds. We stratified these bond instruments and calculated the average median yield to maturity. These rates were used to establish the debt rate for companies having more speculative ratings.

COST OF PREFERRED STOCK

For 2006, preferred stock average rate was calculated only for the electric industry category. The cost of preferred stock is obtained from Moody's. The appropriate rates are incorporated for each company. The average preferred stock rate is incorporated in the electric companies where it is deemed typical for the industry. If unavailable we used data from Standard and Poor's and other sources. For the companies where no rate was available, the average of the industry is imputed except for those companies that do not have any preferred stock.

COST OF EQUITY *Ke*

The DPT used both the Discounted Cash Flow (DCF) model and the Capital Asset Pricing Model (CAPM) to derive a cost of equity. DCF was not deemed appropriate for airline groups, IPPs, railroads, and telephone groups; only CAPM was used. For all others, both the DCF and the CAPM were used with equal weighting. The Risk Premium (RP) method to calculate the cost of equity was not utilized for the following reasons:

- The Risk Premium (RP) method relies primarily on long-term averages and the present conditions for utility companies in the study may not resemble those averages.
- The past averages mentioned above apply only as a trend for the whole market.
- The Risk Premium (RP) method is broadly general and applies to diversified companies in various industries. For capitalization rate calculation purposes, most estimates of common equity cost require a closer fit to the specific company in a regulatory, non-diversified utilities industry.

Discounted Cash Flow (DCF)

The DCF is a measure of the equity rate. The return consists of two components, an expected growth rate and a dividend yield rate. The expected growth rate is the estimated future growth to earnings as presented in Value Line. The dividend yield is also shown in Value Line. The averages of the expected growth rate, the dividend yield, and the equity rate are shown on the AVERAGES line.

Electric and fluid pipeline industry representatives asked if we would eliminate any DCF equity rate indicators that fell below the ascribed debt rate for that company. As in prior years, we eliminated DCF equity rates that fell below 6.50 percent, and used the CAPM formula to derive the equity rate for these companies. For railroad companies, equity rates were determined by weighting the DCF and CAPM equity determinations 10% / 90% respectively.

Capital Asset Pricing Model (CAPM)

The CAPM is also a measure of the equity rate. The return consists of three components; the beta selection, the ex post (historical) and ex ante (forward looking) add-on for equity risk, and the risk free rate. The final CAPM rate is the average of the ex post and ex ante estimated cost of equity.

Beta Selection: Beta is the variable in the CAPM that measures an asset's level of systematic risk. A stock with a beta of 1 is equal in risk to the overall market index, and thus will provide investors with an expected return equal to that of the market index. Stocks with betas greater or less than 1.0 have risk levels and expected returns that are respectively higher or lower than that of the market index. The source used in this year's study is Value Line. The Value Line beta is derived from a regression analysis of the relationship between weekly percentage changes in the New York Stock Exchange Index over a period of five years. In case of short price histories, a smaller time period is used, but two years is the minimum.

Risk Free Rate: The risk free rate in the CAPM calculation is the rate for long-term (20-year) government bonds at December 30, 2005. The *Federal Reserve Statistical Release* of January 3, 2006, showed the rate at 4.61 percent.

Ex Ante Cost of Equity: In the context of the CAPM, the expected equity risk premium is an expected future return less the expected future risk free rate. Ideally, one should forecast both the risk free rate of return and the return on the market. In our analysis, the expected risk free rate of return required by investors is the long-term Treasury Bond Yield as of December 2005. The market rate of return, the expected rate of return of the S & P 500, is calculated on the next page of this narrative summary at 14.13 percent. The result is an equity risk premium of 9.52 percent (14.13 percent - 4.61 percent).

The formula for the ex-ante CAPM is:

Ke = [beta x risk premium (9.52%)] + the risk free rate (4.61%)

Ex Post Cost of Equity: According to the *Risk Premium over Time Report: 2005,* Key Variables in Estimating the Cost of Capital, published by Ibbotson Associates (Risk Premium)*,* the equity risk premium as of the end of 2005 was 7.1 percent. The risk premium is based on the difference between historical arithmetic mean total returns of large company stocks and long-term government bonds between 1926 and 2005.

The formula for the ex-post CAPM is:

Ke = [beta x risk premium (7.1%)] + the risk free rate (4.61%)

Expected Future Rate of Return on the S & P 500: The use of an ex-ante CAPM model requires an estimate of the expected future rate of return on the market portfolio. The average of the following two discounted cash flow calculations estimate the rate.

$$k_M = \frac{D_0(1+g)}{P_0} + g$$

kM = The expected future rate of return on the market portfolio (S & P 500)
*D*0 = $22.21, current dividend, source-S & P Stock Guide, Jan 2006 Edition, P.7.
*P*0 = $1,207.77, current price, average of the S & P 500 monthly closing prices, Source: S & P Current Statistics, January 2006 Edition.
g = 12.04%, long-term projected earnings growth rate, source: S & P 500, December 30, 2005
$\frac{D_0}{P_0}$ = The dividend yield

$$kM = \frac{\$22.21\ (1+.1204) + .1204}{\$1{,}207.77}$$

kM = 14.10 %

An alternative to using the current dividend and current price is to use the S & P 500 dividend yield of 1.9% (broad large cap), provided in the S & P Stock Guide, January 2006 Edition, P. 6. Substituting the dividend yield for the current dividend and current price the equation becomes:

***kM* = (.019)(1.1204) + .1204 = 14.169%**

The equally weighted average of the two DCF models results in an expected required rate of return on the market of **14.1345% or 14.13 (rounded).** The final estimated expected rate of return on the S & P 500 used in an ex ante CAPM model is:

Final Estimated Ex Ante CAPM
14.13 %

CONCLUSION

All of the referenced rates are shown on the Summary Statistics on page 9 of the Capitalization Rate Study.

The factors for the WACC for each industry are shown on the CAP RATE CALCULATION line. The cap rate for the industry is based on the following formula:

Equity Rate x Percent Equity
+ Debt Rate x Percent Debt
+ Preferred Rate x Percent Preferred
= Industry Cap Rate

For the 2006 assessment year, we will not include of flotation costs. However, we are planning additional research regarding flotation costs in the latter part of 2006 and will issue a decision, prior to 2007, whether we will allow these costs.

2006 EQUALIZATION FACTOR

Review of the U.S. Bureau of Labor Statistics GNP Price Deflator Index, Consumer Price Index, Producer Price Index, and GNP Non-Residential Fixed Investment Index, the equalization factor for 2006 is calculated to be 96%. For the 2006 lien date, Colorado current values are multiplied by 96 percent to arrive at the Colorado actual value for the June 30, 2004, valuation date.

Aggregate Indicators:	94.91%
Investment Indicators:	97.12%
Reconciliation (rounded):	**96%**

Assessed value is 29 percent of the Colorado actual value.

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